SWEETWATER COVE LAKE
JULY 2014 - LAKE BIOASSESSMENTS

Greetings Sweetwater Cove Lakes,

As a reminder, the County has been funding the aquatic weed control services for Sweetwater Cove Lakes for the past year and will continue to do so until the established *Sweetwater Cove Lake Aquatic Weed Control and Lake Management MSBU* takes effect which will be on October 1st, 2014; the start of the County's new fiscal year. On October 1st, 2014, the aquatic weed control services will then be funded by the established MSBU. As part of the MSBU, Sanlando Utilities will be funding 53% of the annual costs for the ongoing program (this will also be in effect on October 1st, 2014). Although the funding source will shift, the County's Lake Management Program will continue to oversee the technical aspects of managing Sweetwater Cove Lakes while an MSBU is in effect for the waterbody.

Bioassessment Report:

On **July 2nd, July 15th,** and **July 30th, 2014**, Lake Management Program (LMP) staff surveyed the aquatic plants in Sweetwater Cove Lakes.

Algae Monitoring and Algae Control Devices (Lower Lake):

A great deal of algae growth (Lyngbya species) within the Lower Lake continues to be observed. In May, it was decided to alter from the original study plan involving the sonic devices by commencing to treat the algae (with herbicides) at specific locations monthly. This chemical effort is in addition to the sonic devices that were installed and still actively running. Based upon June observations, the algae treatments in Lower Lake was increased to 14 day increments in efforts to further reduce the biomass in the vicinity of the sonic units. Additionally the method of application was adjusted to enhance the effects of the herbicide treatments.

We have just concluded the third consecutive "14 day" herbicide treatment in Lower Lake, and based upon these efforts, we have notice improvements; more areas showing a clear lake bottom. We will continue to monitor the lakes at 7 to 14 day increments from now to end September. It is anticipated that the true effects of algae control from the sonic devices will not be known until Spring 2015 (at best). The units have struggled with the growth rate of algae in the system; however so has the herbicide treatments set at the previous frequency of monthly. Algae is at its peak growing season.

Photo: Overview of Lower Lake taken on July 30th. Recent rains and herbicide treatments have reduced the algae biomass.

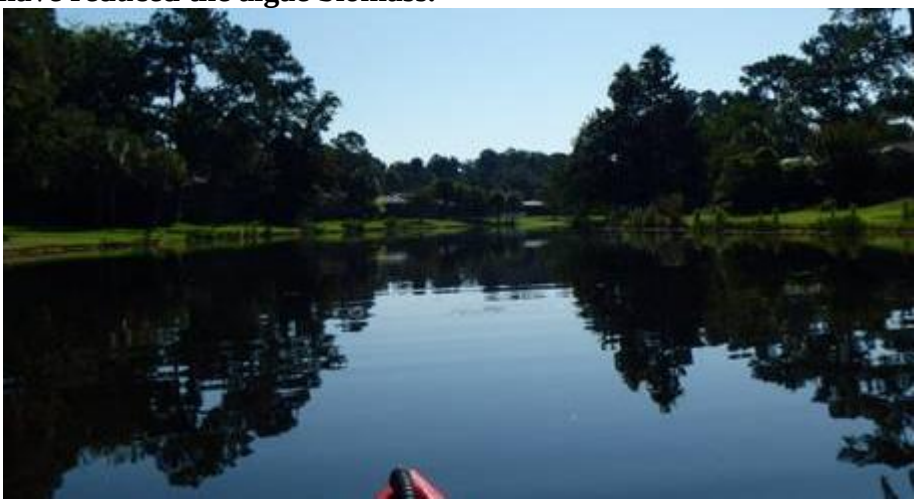
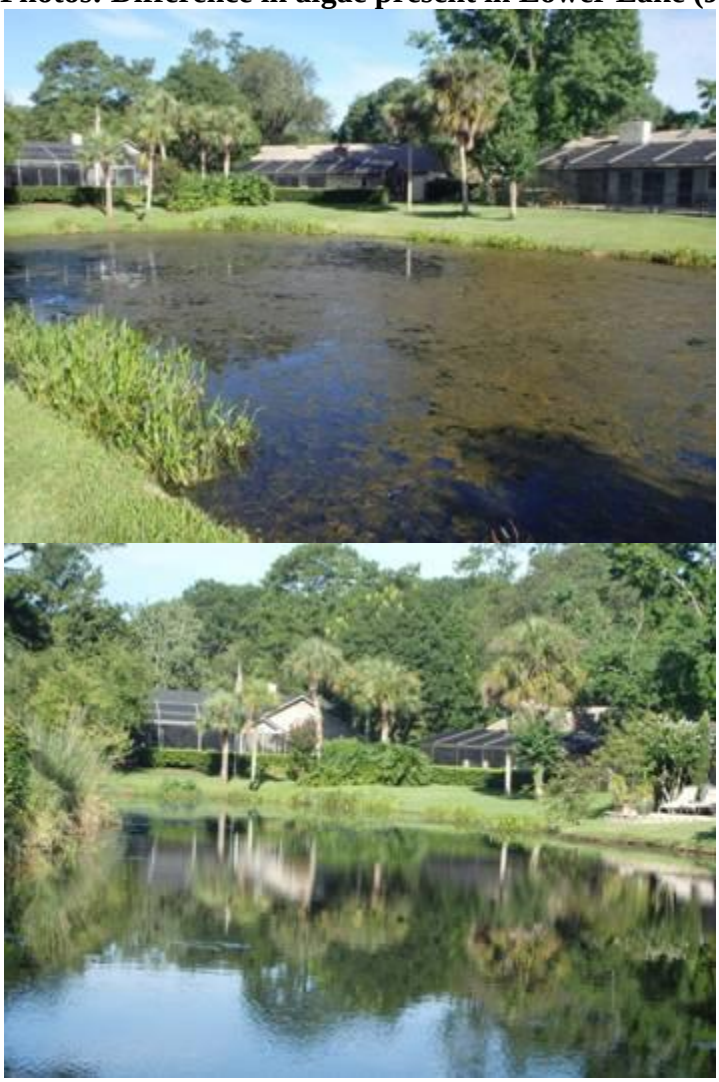


Photo: Clear lake bottom newly observed.

Photos: Difference in algae present in Lower Lake (June 19th on left and July 1st on right).



As the algae is being affected by the herbicide treatments and possible sonic devices, this algae "bubbles-up" from the bottom. Additionally, the algae is naturally dislodging from the bottom of the lake from wind/wave action generated during storm events causing it to float on the water's surface. We continue to treat these large patches of floating algae to accelerate the breakdown and reduce negative impacts to the dissolved oxygen levels. Recent rains and increased flow has assisted in moving more of the floating algae out of the system.

Lyngbya is a very difficult aquatic species to manage because it has a protective cell wall (sheath) that is made up of calcium carbonate. This makes it difficult for most herbicides to penetrate the cell wall. Again, we continue to evaluate the effects of both herbicides and sonic devices to manage this species. We have been in discussion with several Lyngbya experts and continue to evaluate the system from a physical and chemical aspect; we suspect certain areas of the Lower Lake are more prone to excessive Lyngbya growth than others.

Photo: Close up view under microscope of Lyngbya.

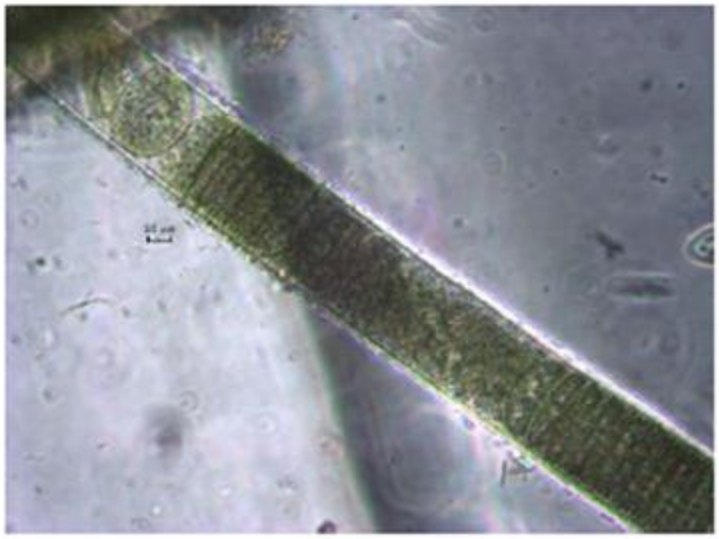


Photo: Lake Management collecting chemical data in an area where Lyngbya is excessively growing.

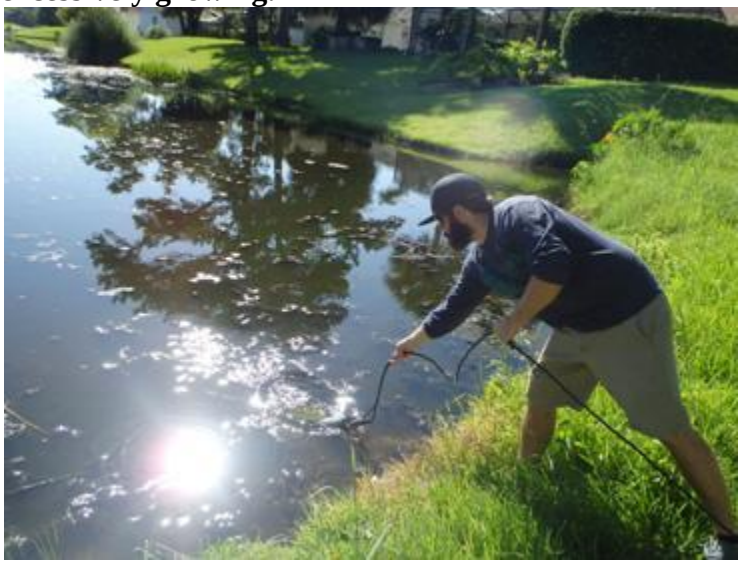


Photo: Groundwater seepage site located in Lower Lake. Lower photo shows water chemistry being evaluated at this location.

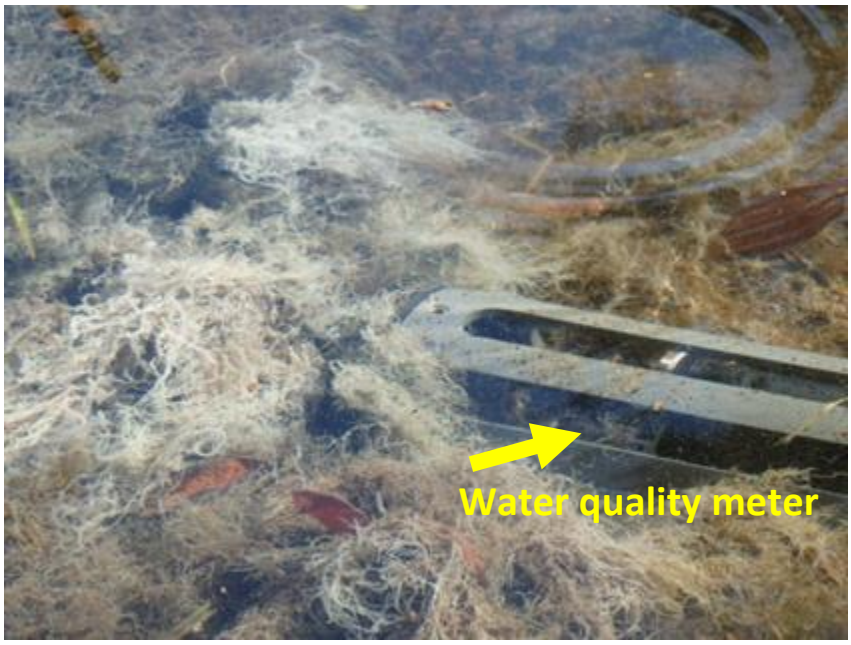
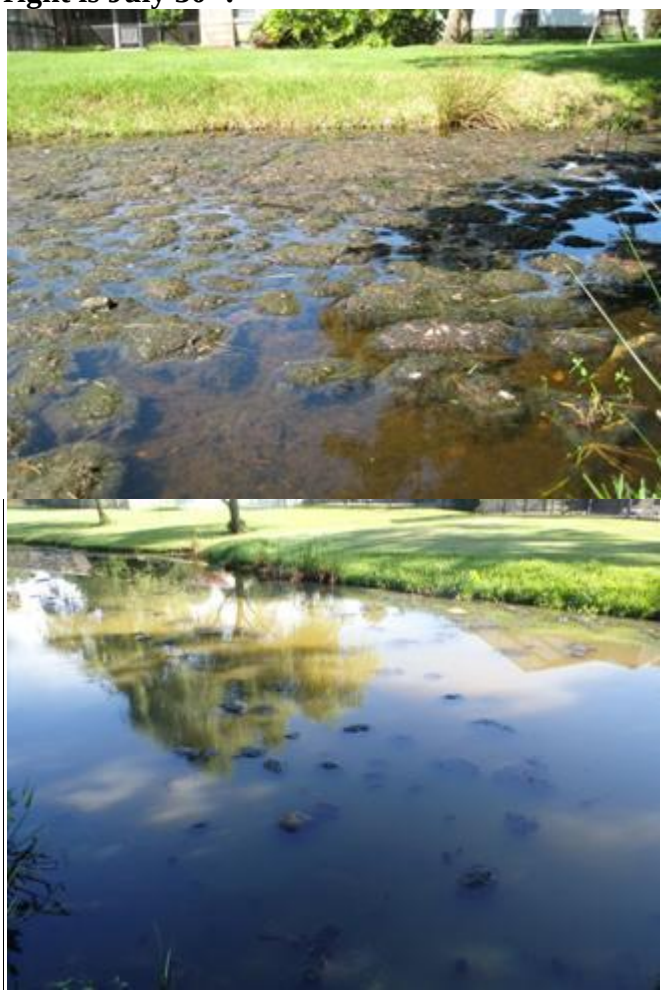


Photo: View is of the dead end on east side. These effects are due to actively controlling algae with chemicals and possible sonic devices. Photo on left was June 19th and photo on right is July 30th.



Middle and Upper Lakes:

The remaining lakes (middle and upper) are routinely receiving algae treatments along the margin of the lakes in conjunction with the emergent plant control treatments. The lilies present on the south side of Wekiva Springs Road are being monitored for when next treatment will occur. The lilies in the Upper Lake will be targeted for treatment upon next service date.

Photo: Treating algae along the lake margin.

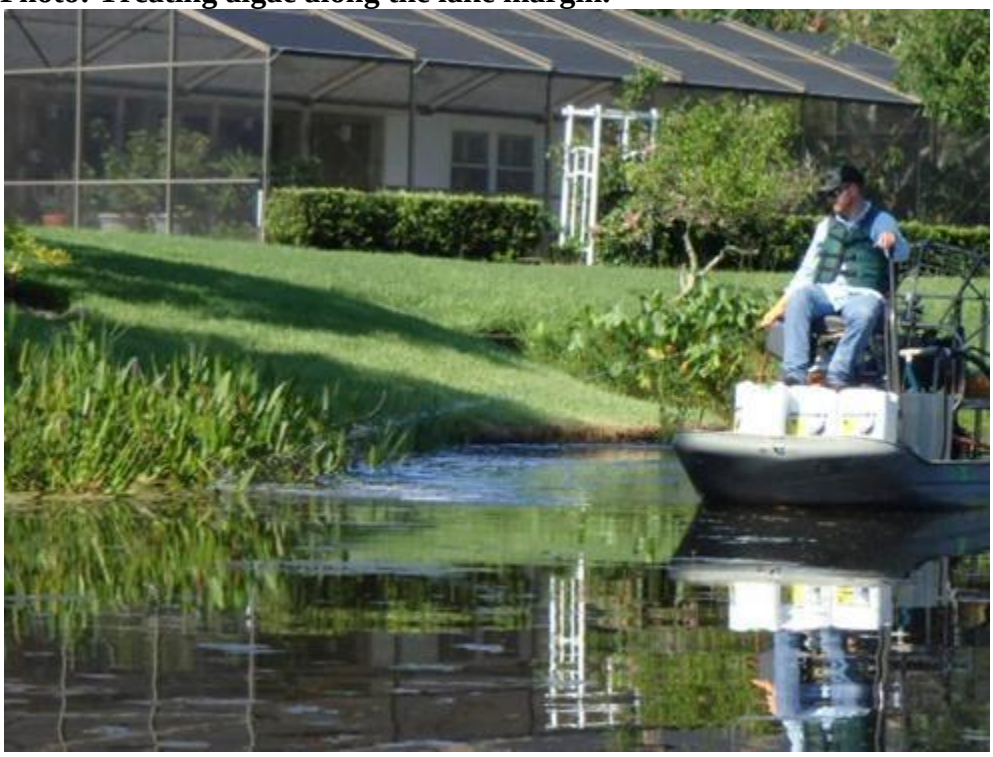
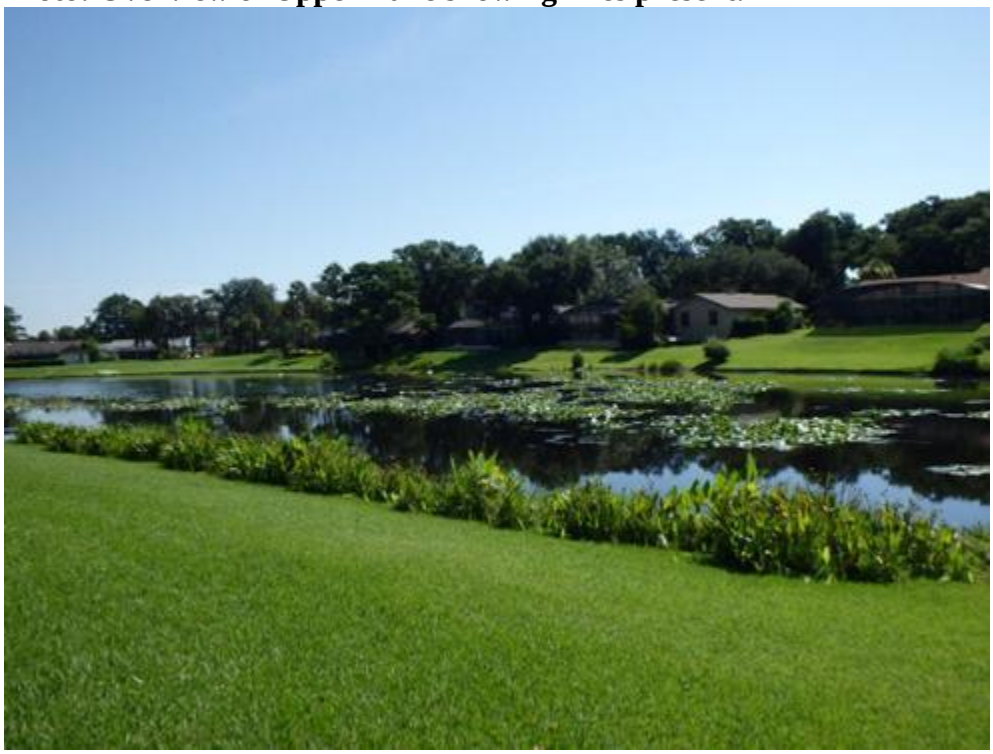
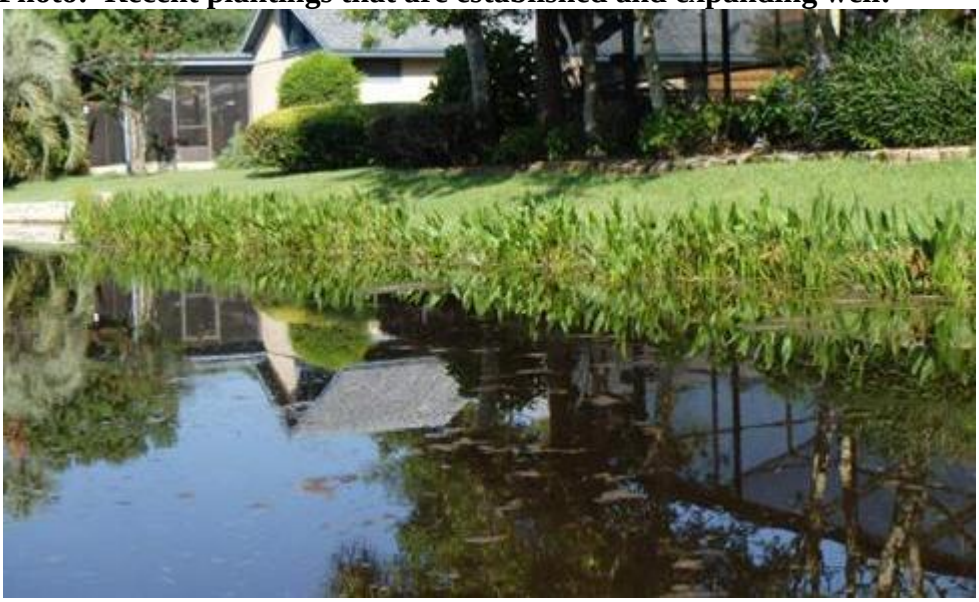


Photo: Overview of Upper Lake showing lilies present.



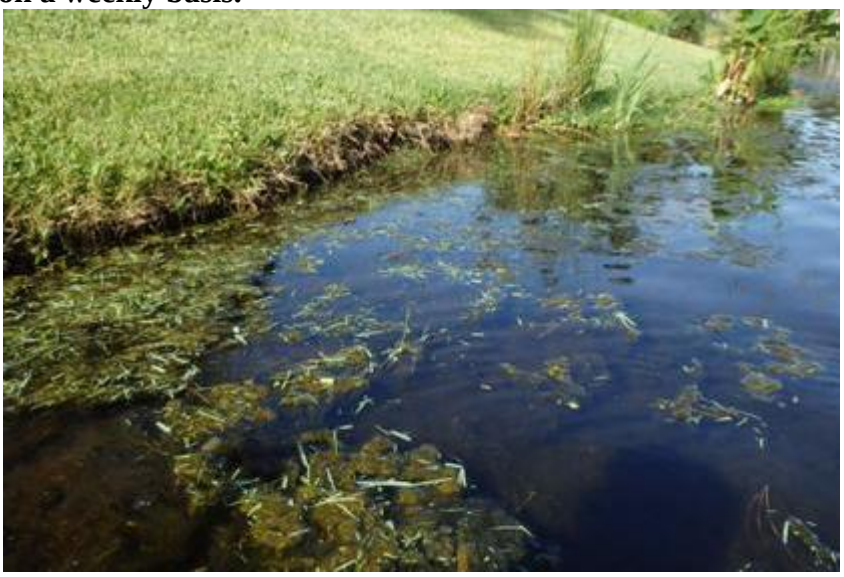
Restoration Events:
We continue to see successes in the volunteer planting locations driven by community efforts. Some locations have been greatly impacted by deer grazing on the plants. Thanks to all those that have participated in these events to help improve your lake!

Photo: Recent plantings that are established and expanding well!



Grass Clippings- during our visits we continue to see a **large** amount of grass clippings in the lakes. These clippings generate fuel for algae to become prolific and directly pollute your waterways. Please direct the clippings away from the water. If you have hired services, please let them know.

Photo: Grass clipping along the shoreline fueling algae growth; observed to be occurring on a weekly basis.



Recommendations:

1 Continue to work together with other lakefront owners to increase native aquatic plantings along shoreline (such as pickerelweed, canna, and duck potato). Have at least one annual lake association meeting to discuss lake-specific issues inviting guest speakers such as county or state biologists. REDUCE the amount of grass clippings entering your lake on a weekly basis.

2 Increase educational outreach programs, including Shoreline Restoration Projects (planting days), Florida Yards and Neighborhoods (FYN) Workshops, and Lake Management Video mail-outs. Most importantly, reducing personal pollution to your lake by decreasing fertilizer usage and using **only phosphorous free** and **slow-release nitrogen** fertilizers; maintaining a healthy shoreline with beneficial native aquatic plants; keeping grass clippings out of your lake and out of storm drains that lead to the lake. All of these activities help to protect and preserve your waterbody! Contact LMP at (407) 665-2439 for information about free educational programs.

3 Help spread the word! Obtain email addresses from neighbors not currently on the distribution list in order to share this information with others. Valuable information is contained within these reports.

Have a great weekend and thank you for reading.

Gloria Eby
Lake Management Program Manager
Interim Mosquito Control Program Manager
Seminole County Watershed Management Division
200 W. County Home Road, Sanford, FL 32773

407-665-2439
407-665-5600 (fax)

SEMINOLE COUNTY
FLORIDA'S NATURAL CHOICE

Lake Management website: http://www.seminole.wateratlas.usf.edu/LakeManagement

Mosquito Control website: http://www.seminolecountyfl.gov/pw/mosquito/index.aspx?ref=

Seminole Education, Restoration & Volunteer (SERV) Program